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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* RICHARD C. WILMOTH

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Appeal 2008-1426  
Application 10/751,359  
Technology Center 3700

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Decided: August 13, 2008

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Before MURRIEL E. CRAWFORD, JENNIFER D. BAHR, and ANTON W. FETTING, *Administrative Patent Judges*.

BAHR, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Richard C. Wilmoth (Appellant) appeals under 35 U.S.C. § 134 from the Examiner's decision rejecting claims 1-3, 5-7, 10, 11, and 14-16. Claims 4, 8, 9, 12, 13, and 17, the only other pending claims, have been objected to as depending from rejected base claims but have been indicated as allowable

if re-written in independent form. We have jurisdiction over this appeal under 35 U.S.C. § 6 (2002).

*The Invention*

Appellant's claimed invention is directed to compartment pressure relief valves that operate irrespective of gravity (Specification 2, ¶ [0001]). Such valves are used in vehicles to allow air pressure, built up in the vehicle compartment from running of an air conditioner or shutting of a door, to escape the compartment to ensure a comfortable environment (Specification 2, ¶ [0002]). Claim 1, the only independent claim involved in this appeal, reads as follows:<sup>1</sup>

1. An orientation independent compartment air pressure relief valve comprising:
  - a. a housing, said housing comprising a throughflow channel for allowing fluid communication from an intake of said channel to an exhaust of said channel; and
  - b. a sealing flap secured to said housing such that said sealing flap closes said exhaust of said channel and is adapted to flexibly open in response to pressure, said sealing flap comprising a relatively pliable layer oriented toward said intake and a relatively rigid layer oriented toward said exhaust, whereby said relatively rigid layer operates to close said sealing flap irrespective of said pressure relief valve's orientation with respect to gravity.

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<sup>1</sup> Appellant attempted to amend claims 1, 3, 7, 9-11, 13, and 16 subsequent to the Final Rejection in an Amendment filed March 16, 2006, but that amendment was denied entry by the Examiner (Advisory Action mailed April 20, 2006).

*The Rejections*

The following rejections are before us for review.

Claims 1-3, 5-7, 11, 14, and 15 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Gies (US 5,355,910, issued Oct. 18, 1994) in view of Klomhaus (US 5,194,038, issued Mar. 16, 1993).

Claim 16 stands rejected under 35 U.S.C. § 103(a) as unpatentable over Gies in view of Klomhaus and Barton (US 6,210,266 B1, issued Apr. 3, 2001).

Claim 10 stands rejected under 35 U.S.C. § 103(a) as unpatentable over Gies in view of Klomhaus and Oppermann (US 6,609,535 B2, issued Aug. 26, 2003).

OPINION

At issue in this appeal is whether the combined teachings of Gies and Klomhaus establish that a valve as recited in claim 1 “whereby said relatively rigid layer operates to close said sealing flap irrespective of said pressure relief valve’s orientation with respect to gravity” would have been obvious at the time of Appellant’s invention. *See Appeal Br. 14-16.*<sup>2</sup>

Gies teaches a vehicle compartment relief valve including a valve flap 22 and a main frame assembly 12. The main frame assembly 12 comprises a peripheral flat frame 14, a flange section 16, and an inwardly extending lip 20 about the end of flange 16 providing a valve seat for valve flap 22. (Col. 3, ll. 13-21.) The frame assembly 12 is mounted such that the frame 14 is essentially vertically oriented and the valve flap 22 is inclined from the vertical “so that under the influence of gravity, it assumes the normally closed position shown solid” (col. 3, ll. 30-35; fig. 2). The valve flap 22 of

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<sup>2</sup> We refer in this opinion to the Appeal Brief filed April 23, 2007.

Gies comprises a first sheet of relatively flexible elastomeric material 24 and a second strip 40 of rigid plastics material (col. 3, ll. 41-43 and col. 4, ll. 1-3). Sheet 40 adds rigidity to the lower section of valve flap 22 and prevents warping and flexing of the valve flap (col. 4, ll. 18-20).

Gies expressly teaches a valve that is closed “under the influence of gravity” and thus, as conceded by the Examiner (Answer 3<sup>3</sup>), does not teach a valve in which “said relatively rigid layer operates to close said sealing flap irrespective of said pressure relief valve’s orientation with respect to gravity,” as called for in claim 1.

Klomhaus discloses a one-way passenger compartment relief valve having a flap 44 having a plastic connecting portion or living hinge integrally molded with the valve frame. Klomhaus teaches molding the flap in a position projecting through the air passageway of the valve frame, as shown in Figures 1-3, and then swinging the flap from the initial molded position to the operative position shown in Figure 5. In this operative position it overlies the outside face 20 of the frame and covers the air passageway. The flap portion 44 is elastically loaded by the swinging from the initial molded position to the operative position to bias or urge the flap to the closed position with the flap covering the air passageway. (Klomhaus, col. 1, ll. 35-53 and col. 2, ll. 41-63.) Klomhaus teaches that the living hinge of flap portion 44 will yield to an increase in air pressure in the passenger compartment to open the flap to vent air but otherwise biases the flap against the outer surface of the frame to the closed position (col. 2, l. 63 to col. 3, l. 2). According to Klomhaus, “[i]n this respect it is assisted by the gravity of

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<sup>3</sup> We refer in this opinion to the Examiner’s Answer, mailed August 13, 2007.

the flap lying against the downwardly and outwardly sloping partition 16 of the frame” (col. 3, ll. 2-4; fig. 5). The elasticity of the flap will cause it to spring back to its normal shape (i.e., covering the air passageway) after being deformed.

We agree with Appellant that Klomhaus also does not teach a valve having structure that “operates to close said sealing flap irrespective of said pressure relief valve’s orientation with respect to gravity,” as called for in claim 1. All Klomhaus teaches is a flap integrally connected via a live hinge to the frame and elastically loaded to bias the flap to the closed position such that, when the valve is oriented such that the valve seat (partition 16) is in a downwardly and outwardly sloping orientation relative to the hinge, as depicted in Figure 5, the elastic loading assisted by gravity will cause the flap to spring back to its closed position. Klomhaus does not specifically address whether the spring bias caused by the elastic loading is sufficiently strong to operate to close the flap when the valve is oriented differently than as depicted in Figure 5, such as an orientation rotated 90 degrees clockwise from that depicted in Figure 5, wherein gravity would contribute a force in the opening direction, rather than in the closing direction.

In rejecting claims under 35 U.S.C. § 103(a), the examiner bears the initial burden of establishing a *prima facie* case of obviousness. *In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992). *See also In re Piasecki*, 745 F.2d 1468, 1472 (Fed. Cir. 1984). It is incumbent upon the examiner to establish a factual basis to support the legal conclusion of obviousness. *See In re Fine*, 837 F.2d, 1071, 1073 (Fed. Cir. 1988). In so doing, the examiner is expected to make the factual determinations set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966), *viz.*, (1) the scope and content of the prior

art; (2) the differences between the prior art and the claims at issue; and (3) the level of ordinary skill in the art. In addition to these factual determinations, the examiner must also provide “some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006) (*cited with approval in KSR Int'l. Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1741 (2007)). Only if this initial burden is met does the burden of coming forward with evidence or argument shift to the appellant. *See Oetiker*, 977 F.2d at 1445. *See also Piasecki*, 745 F.2d at 1472. Obviousness is then determined on the basis of the evidence as a whole and the relative persuasiveness of the arguments. *See Oetiker*, 977 F.2d at 1445; *Piasecki*, 745 F.2d at 1472.

Both Gies and Klomhaus teach valves specifically oriented so that gravity will assist in returning the flap to its closed position. Neither Gies nor Klomhaus teaches a valve constructed so that a relatively rigid layer of the valve flap operates to close said sealing flap irrespective of said pressure relief valve’s orientation with respect to gravity and neither reference expresses any concern about closure of the valve irrespective of the valve’s orientation. Consequently, it would be speculative at best to conclude that combining the two-layer flap arrangement of Gies with the spring-biased live hinge arrangement of Klomhaus would yield a valve having a flap the relatively rigid layer of which operates to close said sealing flap irrespective of said pressure relief valve’s orientation with respect to gravity. Rejections based on 35 U.S.C. § 103 must rest on a factual basis. In making such a rejection, the examiner has the initial duty of supplying the requisite factual basis and may not, because of doubts that the invention is patentable, resort to speculation, unfounded assumptions or hindsight reconstruction to supply

deficiencies in the factual basis. *In re Warner*, 379 F.2d 1011, 1017 (CCPA 1967). The only teaching to construct a compartment pressure relief valve having a flap constructed to close irrespective of the valve's orientation with respect to gravity comes from Appellant's disclosure and not from the applied prior art. We thus conclude, as does Appellant, that the Examiner's rejection of independent claim 1, and claims 2, 3, 5-7, 11, 14, and 15 depending from claim 1, as unpatentable over Gies and Klomhaus is grounded in part on impermissible hindsight and cannot be sustained.

Barton, like Gies and Klomhaus, also teaches a valve flap assembly designed for use in an orientation wherein the valve flaps slope downwardly from the hinged edges of the flaps in the closed position with the flaps resting on the valve seats (col. 5, ll. 13-16)<sup>4</sup>, such that the flaps will be closed under the influence of or with the assistance of gravity, and thus does not remedy the deficiency of the combination of Gies and Klomhaus. The Examiner relies on Barton for its teaching of heat staking and not for any teaching that would overcome the deficiency in the Gies and Klomhaus combination. Thus, for the reasons discussed above, the rejection of claim 16, which depends indirectly from claim 1, as unpatentable over Gies in view of Klomhaus and Barton also cannot be sustained.

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<sup>4</sup> Barton points out that the disclosed embodiment is intended for installation in a generally vertical panel (col. 5, ll. 13-15). While Barton teaches that it is also possible to design a valve according to the Barton invention for installation in a panel oriented horizontally or at any angle (col. 5, ll. 17-19), we find this teaching conveys that any such valves according to Barton's invention will be designed so that when installed in the orientation for which they are intended the valve flaps will slope downwardly from the hinged edges of the flaps in the closed position with the flaps resting on the valve seats.

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The Examiner does not rely on Oppermann for any teaching that would overcome the deficiency of the combination of Gies and Klomhaus discussed above. Therefore, the rejection of claim 10, which depends from claim 1, as unpatentable over Gies in view of Klomhaus and Oppermann also cannot be sustained.

#### DECISION

The decision of the Examiner to reject claims 1-3, 5-7, 10, 11, and 14-16 is reversed.

REVERSED

Appeal 2008-1426  
Application 10/751,359

LV:

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